

Coenzyme Q10 nanoparticles

Product type	Active agent concentrate
Product name	Coenzyme Q10 nanoparticles
INCI	Aqua • Caprylic/Capric Triglyceride • Pentylene Glycol • Glycerin • Alcohol • Sorbitol • Lecithin • Xanthan Gum • Ubiquinone
Composition	Nanoparticles of coenzyme Q10 (ubiquinone) and phosphatidylcholine (INCI: lecithin) in aqueous dispersion
Properties	Nanoparticles stabilize the coenzyme Q10 and optimally transport the active agent into the horny layer. Coenzyme Q10 is specifically used in skin care products for the mature skin in combination with the vitamins A and E. It improves the effects of these vitamins as well as the antioxidative capacity of the epidermis. The protection against oxidative UV A impacts has been described in specialised literature. The coenzyme Q10 used is synthesized biotechnologically from glucose.
Application	- Additive to the DMS®-base creams for the treatment and protection of the mature and elderly skin - Local skin treatment by applying the pure concentrate
Dosage (additive for the 44 ml DMS®-base cream unit)	minimum: 1 ml nanoparticles maximum: 6 ml nanoparticles recommended: 2 ml nanoparticles
Shelf life	At least 30 months at appropriate storage, unopened
References	Corneotherapy and Anti-aging, Profi Kosmetik 2005 (8), 36-37



More information about coenzyme Q10

Coenzyme Q10 plays a key role in the respiratory chain and has a big potential in scavenging free radicals. Coenzyme Q10 is diminished in elderly humans. In consequence metabolism, especially lipid metabolism decreases with age.

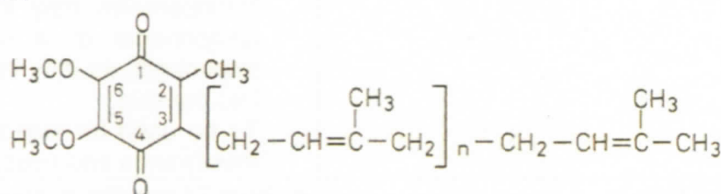
Coenzyme Q10 is a lipid soluble molecule similar to vitamins E and K, which can be localized in the mitochondria membranes. Main component of these membranes is phosphatidylcholine.

Topically applied coenzyme Q10 can inhibit radical induced inflammation processes and can activate metabolism. Its reduced form is the active one (see below).

The topically applied coenzyme Q10 can be more effective than the orally given one, if it is encapsulated in a natural vehicle, the phosphatidylcholine-nanoparticle. Therefore, in contrast to conventional products coenzyme Q10-nanoparticles fulfill 4 important conditions:

- Effective transport of the active agent into and through the stratum corneum – resulting in high local concentrations
- Effective protection of the active agent by encapsulation
- Synergism with phosphatidylcholine activity
- Long lasting release of the active agent

Plant and animal ubiquinones:
n = 5-10; coenzyme Q10: n=10



Reduced, active form of ubiquinones:

